Chinese Children's Causal Knowledge and Text Comprehension

Yin-kum Law, Chee Ha Lee and Slava Kalyuga

The study was designed to investigate the effectiveness of using cause-effect conjunctions to demonstrate the causal relations between events for inferential comprehension of narrative text from the perspective of cognitive load theory. A 2x2 factorial design in which learning effects of two instructional methods (with cause-effect conjunctions and without cause-effect conjunctions) were compared for learners with lower and higher levels of prior reading proficiency.

Seventy-four Year 5 students in Hong Kong participated in this study. The Hong Kong Attainment Test (Chinese) was used to evaluate students prior levels of reading proficiency. According to their scores, students were allocated alternatively to the two experimental conditions. Three short narrative passages with moral themes of similar length were selected as learning and test materials. Learners in both groups were instructed to read the first two passages twice and pay attention to the main ideas and the theme of the text. For the cause-effect conjunctions group, highlighted cause-effect conjunctions were provided. Learners were explicitly instructed to pay attention to the cause-effect conjunctions and were reminded to apply the techniques they learned in reading a following new passage. Afterwards, learners had to complete a paper-based test which required learners to write a summary for the third passage (no cause-effect conjunctions). They did not have an access to the passage during the test.

Two-way ANOVA indicated a significant interaction between the two instructional conditions and the learners' expertise for the summary test. Providing explicit cause-effect conjunctions throughout narrative text could provide a well-formed text structure and guide lower prior knowledge level learners in effective text comprehension. However, this external guidance could be harmful for higher prior knowledge level learners. When available knowledge base of advanced learners is sufficient for guiding their reading comprehension and learning activities, the provided instructional guidance may become redundant. Additional cognitive resources may be required for processing redundant information and these resources will become unavailable for higher-order learning activities.